REMARKS

The final Office Action, mailed February 14, 2006, considered and rejected claims 1-60 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In addition, claims 1-59 were rejected under 35 U.S.C. § 102(e) as being anticipated by Panusopone (U.S. Patent No. 6,647,061), and claims 12, 29, 36, 48 and 55 were further rejected under 35 U.S.C. § 103(a) as being unpatentable over Panusopone (U.S. Patent No. 6,647,061) in view of Wee et al. (Secure Scalable Streaming Enabling Transcoding Without Decryption, IEE International Conference on Image Processing, October 2001).[1, 2]

In addition, the drawings and various portions of the specification were objected to for informalities and numbering. These informalities have been fixed by amendment. Figure 3 was also objected to for failing to provide a legend designating it as "Prior Art." This objection is specifically traversed inasmuch as while the specification notes that the quantization of DCT coefficients can be computed in a routine manner, the specification does not describe that the method in Figure 6, while routine, is prior art. In fact, certain embodiments of the present invention incorporate features disclosed in reference to Figure 3. Accordingly, Figure 3 should not be labeled as Prior Art *per se*.

By this paper, claims 1, 19, 33, 39, 52, 58 and 60 have been amended.[3] No other claims have been added or cancelled, such that claims 1-60 remain pending for reconsideration, and of which the only independent claims at issue are claims 1, 19, 33, 39, 52 and 58. All of the pending claims are directed to embodiments corresponding to spatial transcoding a video stream.

As recited in claim 1, for example, a method for transcoding an incoming video stream to reduce the bit rate of the video stream is described. The method includes decoding the incoming

[1] Although claims 12, 29, 36, 48 and 55 were rejected under 35 U.S.C. § 102(e) as being anticipated by Panusopone, the Office Action notes that "Panusopone doesn't disclose performing fine grain motion estimation for the MVs." (Office Action, p. 13). Inasmuch as fine grain motion estimation for the motion vectors is an express recitation of the listed claims, and the Examiner has expressly acknowledged that the allegedly anticipatory art fails to disclose the recited element, Applicants will treat claims 12, 29, 36, 48 and 55 as being rejected only under 35 U.S.C. §§ 103(a) and 112.

[2] Although the prior art status of the cited art is not being challenged at this time, Applicants reserve the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

[3] Support for the amendments to the claims and specification can be found throughout the original application, including, but not limited to, the disclosure found in paragraphs 19, 30, 37, 57, Figure 1 and Figure 6.

video stream, including at least one B frame in the incoming video stream, where parameters of the incoming video stream are extracted and used to generate a new video stream. Further, images of the incoming video stream are spatially reduced by a selected factor in a manner that the at least one B frame is considered while spatially reducing the images. In addition, a new video stream is generated that includes spatially reduced images using one or more of the extracted parameters and less than all of the parameters are re-computed for the new video stream, and such that the spatially reduced images in the new video stream include at least one B frame.

Claim 19 is directed to a similar method, but wherein the transcoding and spatial reduction of the incoming video stream includes resampling. Claim 33 is also directed to a similar method, but wherein the transcoding and spatial reduction of the incoming video stream includes subsampling. Claims 39 and 52 are directed to computer program product claims corresponding to the methods recited in claims 19 and 33, respectively. Finally, claim 58 is directed to a transcoder, which is configured to implement the foregoing methods.

Rejections Under 35 U.S.C. § 112, first paragraph

As noted previously, each of the pending claims has been rejected under 35 U.S.C. § 112, first paragraph for failing to comply with the written description requirement. Applicants respectfully traverse.

The written description is satisfied when the patent specification, including any originally filed claims, "describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention." *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1319, 66 U.S.P.Q.2d (BNA) 1429, 1438; *see also* M.P.E.P. § 2163(I). Moreover, support for the claim limitations may be express, implied, or inherent. M.P.E.P. § 2163(I)(B).

When an amended claim is the basis of rejection on the written description requirement, the "examiner has the initial burden of presenting evidence or reasoning to explain why persons skilled in the art would not recognize in the original disclosure a description of the invention defined by the claims." M.P.E.P. § 2163(II)(A)(3)(b). Here, the Examiner has rejected each of

the pending claims by summarily stating that the "specification does not disclose 'spatially reducing images of the incoming video stream by a selected factor and without discarding tile [sic] at least one B frame, and such that the at least one B frame is considered during the spatially reducing images.'" (Office Action, p. 5). In other words, the basis of the Examiner's rejection appears to be that the specification does not state the precise language in the claims.

In this regard, Applicants note that the written description does not have an *in haec verba* requirement. M.P.E.P. § 2163(I)(B). Accordingly, the examiner may not reject claims based on the written description requirement merely because the claim fails to use precise language from the specification. Instead, the examiner should fully examination of the specification and the claims, and review such from the standpoint of one of skill in the art at the time the application was filed. M.P.E.P. § 2163(II)(A)(2). Upon such a review, Applicants submit that the claims, as amended, are clearly supported by the specification as understood by one of ordinary skill in the art.

For example, the claims recite spatially reducing images of the incoming video stream by a selected factor, and such that at least one B frame is considered during the spatially reducing images. One embodiment disclosed in the originally filed specification describes a spatial transcoder 300 that spatially reduces a picture size. (¶ 39). To spatially reduce the images of the incoming stream and generate a new video stream, the transcoder uses parameters that were extracted from the input stream. (¶ 36). These parameters can include, for example, motion vectors and associated flags (e.g., intra, forward, backward, quant and pattern flags). (¶¶ 41, 46). As further described, when a B frame is encountered, the backward flag is set to 1.

Accordingly, the originally filed description teaches setting a backward flag based on a B frame, when a transcoder is spatially reducing a picture size. While the language within the specification is not precisely the same as that used in the claim, Applicants submit that the clear description of the use of the B frame to set a backward flag used by a transcoder in spatially reducing a picture size provides sufficient detail such that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. Applicants note, however, that the foregoing example is merely one example of support for the amended claims, and additional support can be found, expressly, impliedly and/or inherently in other portions of the application as originally filed.

Rejections Under 35 U.S.C. §§ 102(e) and 103(a)

As clarified by this paper, the transcoding and spatial reduction of the video stream includes transcoding a video stream by considering at least one B frame while spatially reducing images of an incoming video stream, and generating a new video stream of spatially reduced images, such that the spatially reduced images in the new video stream include at least one B frame. Claim 60 also further clarifies that one or more reference images are made available when generating a new video stream that includes at least one B frame in the spatially reduced images.

Although the cited art is generally directed to methods and systems for transcoding video, it clearly fails to anticipate or make obvious the claimed invention. In fact, Panusopone appears to teach the use of a spatial transcoder in a manner that is directly contrary to the recited claim embodiments.

Initially, Applicants note that Panusopone describes three embodiments of a transcoders. (*See* abstract). In particular, a low complexity front-to-back transcoder is described which has B frames disabled. (*See* abstract; Col. 4, ll. 12-14; Col. 6, ll. 24-26; Fig. 3). An additional transcoder architecture is described which minimizes drift error and has B frames enabled. (*See* abstract; Col. 4, ll. 15-17; Col. 7, ll. 10-12; Fig. 4). Finally, a size transcoder is described which has B frames enabled. (*See* abstract; Col. 4, ll. 18-19; Col. 18, ll. 35-40; Fig. 5). Accordingly, and as noted in the Office Action, Panusopone "discloses 3 embodiments one with B frames disable [sic] and two with B frames enable [sic]". (Office Action, p. 3).

Although the three embodiments are disclosed, Panusopone clearly describes different uses for the transcoders. In particular, Panusopone discloses two distinct forms of transcoding—namely "format transcoding (MPEG-2 to MPEG-4) and size (spatial and temporal) transcoding." (Col. 3, ll. 26-27). Accordingly, a transcoder may *format* transcode and/or *spatially* (i.e. size) transcode an input bitstream.

As described in Panusopone, the transcoders illustrated and described with respect to Figures 3-5 are each capable of *format* transcoding. (Col. 8, ll. 7-15). Significantly, however, only the transcoder described in Figure 5 is illustrated as *size* (e.g., spatially) encoding.

Accordingly, although Panusopone describes three transcoders, only a single transcoder (i.e. the B frame enabled transcoder of Figure 5) performs spatial transcoding.

As noted above, Panusopone describes that the size transcoder that performs spatial transcoding is B frame enabled. (*See* abstract; Col. 4, ll. 18-19; Col. 18, ll. 35-40; Fig. 5). Nevertheless, Panusopone further clarifies that despite being B frame enabled, "B frames may be present in the input bitstream, but *are discarded* by the transcoder and therefore *do not appear in the output bitstream.*" (Col. 18, ll. 35-40). Stated another way, Panusopone teaches that spatial transcoding is performed without considering the B frame and such that the B frames are **NOT** included in the output bitstream. Moreover, Panusopone further clarifies that even if a tanscoder is "B frame enabled," the encoder *does not* consider B frames when performing *spatial* transcoding and *does not* include the B frames in the output.

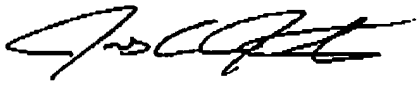
In view of this, Panusopone clearly does not teach or suggest "*spatially* reducing images of the incoming video stream by a selected factor, and such that at least one B frame is considered during the spatially reducing images," or wherein "the *spatially* reduced images in the new video stream include the at least one B frame," particularly in combination with the other recited claim elements. In light of this clearly contrary teaching, Panusopone should not be used in combination with any other cited art, including, but not limited to Wee, for purportedly teaching the claimed invention, in which the transcoding and spatial reduction initially appears to include consideration and output of B frames. In other words, it would not make sense to modify Panusopone to do something that Panusopone expressly teaches against doing.

In view of the foregoing, Applicants respectfully submit that the other rejections to the claims are now moot and do not, therefore, need to be addressed individually at this time. It will be appreciated, however, that this should not be construed as Applicants acquiescing to any of the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any official notice. Instead, Applicants reserve the right to challenge any of the purported teachings or assertions made in the last action, including any official notice, at any appropriate time in the future, should it arise.

For at least the foregoing reasons, Applicants respectfully submit that the pending claims are neither anticipated by nor made obvious by the art of record. In the event that the Examiner finds and remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 14 day of April, 2006.

Respectfully submitted,



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